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Pain Management Perceptions among Prescription Opioid Dependent Individuals

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Abstract

Background—Nearly two-thirds of prescription opioid dependent individuals report chronic pain conditions as both an initial and current motivation for prescription opioid use. However, to date, limited information exists regarding perceptions of the adequacy of pain management and pain management behaviors among prescription opioid dependent individuals with a history of treatment for chronic pain.

Methods—The current study examined perceptions of the medical management of chronic pain among community-recruited individuals (N=39) who met DSM-IV-TR criteria for current prescription opioid dependence and reported a history of treatment for chronic pain. Prescription opioid dependence, symptoms of depression, and pain management perceptions were assessed using the Structured Clinical Interview for DSM Disorders, Beck Depression Inventory, and the Pain Management Questionnaire, respectively.

Results—Reports of insufficient pain management were common (46.2%), as was utilization of emergency room services for pain management (56.4%). Nearly half reported a physician as their initial source (46.2%) and pain management as their primary initial reason for prescription opioid use (53.8%), whereas 35.9% reported pain relief as their primary reason for current prescription opioid use. Symptoms of depression were common (51.3%), as was comorbid abuse of other substances and history of treatment for substance abuse.

Conclusions—Results highlight the complicated clinical presentation and prevalent perception of the under-treatment of pain among this population. Findings underscore the importance of

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interdisciplinary approaches to managing the complex presentation of chronic pain patients with comorbid prescription opioid dependence. Implications for future research are discussed.

Keywords

Prescription opioid; Pain Management; Addictive behaviors; Substance abuse

1. Introduction

The medical treatment of pain is one of the most common reasons for physician visits (Centers for Disease Control, 2011). Chronic pain conditions account for up to \$635 billion in annual public health expenditures and are a leading cause of high-cost emergency department utilization (Neighbor et al., 2007). Prescription opioids (PO) are commonly and increasingly used for the management of acute and chronic pain conditions (Kuehn, 2007; Volkow et al., 2011). Over the past two decades analogous increases in rates of PO misuse (i.e., use other than as directed by a physician), abuse (i.e., a pattern of misuse that leads to significant distress or impairment), and dependence (i.e., physical symptoms of withdrawal and/or tolerance, as well as loss of control over use) have been observed (Manchikanti et al., 2012).

Clinicians in frontline healthcare settings are often tasked with balancing the adequate management of pain with the risks associated with chronic PO use, which include risk of misuse and development of physical and psychological dependence (Passik et al., 2008). Nearly two thirds (61%) of PO dependent individuals report experiencing chronic pain. More than half indicate that the management of chronic pain is a primary motivation for their continued use of POs (Barth et al., 2013; Hartwell et al., 2012; Passik et al., 2006). Further, many individuals first obtain POs from physicians and continue to be in need of effective management of chronic pain conditions (Back et al., 2011; Barth et al., 2013; Labianca et al., 2012). Comorbid depression often further complicates clinical presentation of chronic pain and PO dependence (POD); moderate to severe depression is experienced by an estimated 18-35% of chronic pain patients (Fishbain, 2013).

The aim of this study was to characterize the prevalence and types of pain management perceptions and behaviors, as well as report the prevalence of comorbid depression and comorbid abuse of additional substances, among community-recruited POD individuals reporting a history of treatment for chronic pain,

2. Methods

2.1. Participants

Participants in the current study were individuals who met current (i.e., past 6 months) Diagnostic and Statistical Manual, Fourth Edition (DSM-IV; American Psychiatric Association, 2000) criteria for substance dependence on POs but were not currently seeking addiction treatment (n=122), and responded 'yes' to the question of whether they had sought medical treatment for a chronic pain condition in the past (n=39).

2.2. Procedure

Participants were informed about all study procedures. IRB-approved written informed consent was obtained before any study procedures occurred. Participants were recruited as part of a larger study on the relationship between stress, drug cues, and hypothalamic-pituitary-adrenal (HPA) axis function. Participants were recruited through media outlets (e.g., newspaper, advertisements, Craigslist), as well as local pain and substance abuse clinics, and were initially screened over the phone for study eligibility. Exclusion criteria included: pregnancy or nursing; BMI ≥ 39 ; major medical problems or medications that could effect the HPA axis (e.g., antihypertensive medications, beta-blockers, synthetic glucocorticoid therapy); younger than 18 years of age; current comorbid psychiatric diagnosis (e.g., major depressive disorder or post-traumatic stress disorder, current or history of bipolar affective disorder or a psychotic disorder as assessed by the M.I.N.I.); or use of methadone or other opioid replacement therapies in the past three months. Individuals who met DSM-IV-TR criteria for abuse of or dependence on other substances identified POs as their primary drug of choice.

Following screening, participants presented for an in-person baseline visit consisting of a series structured clinical interviews to assess substance use disorders and comorbid psychiatric conditions, self-report measures assessing constructs related to POD including sleep and depression, a urine drug screen and breathalyzer test, and a history and physical examination. Participants were compensated \$50 for completing the assessment battery. The current study received approval from the Institutional Review Board at the Medical University of South Carolina in April, 2008.

2.3. Measures

Demographics, age of first use of POs (*How old were you when you first used POs?*), and types of POs used (*Which POs do you currently take? List all that apply*) were assessed using forms created for the current study. POD and age of onset of POD were assessed with the Structured Clinical Interview for DSM-IV Disorders (SCID; First et al., 2002), and consistent with DSM-IV, included both physical dependence (e.g., tolerance and withdrawal) and loss of control over use as criteria. The SCID was also used to assess additional substance use characteristics. The Beck Depression Inventory-II (BDI; Beck et al., 1996) assessed depressive symptoms experienced in the past two weeks. The Pain Management Questionnaire (PMQ; Adams, et al., 2004) assessed pain management perceptions/behaviors.

2.4. Analyses

Frequency statistics are reported for key variables. SPSS v.22 was used for all analyses.

3. Results

3.1. Demographics

The final sample of POD individuals reporting a history of treatment for chronic pain ($N=39$) was a mean of 42.23 ($SD=12.46$) years of age. Approximately half ($n=20$; 51.3%) of participants were female. Most were Caucasian ($n=33$; 84.6%), single/unmarried or divorced

(n=23; 59.0%), had completed at least some college (n=23; 59.0%), and were unemployed at the time of the study (n=30; 76.9%).

3.2. Substance Use Characteristics

All participants reported daily cigarette use. As indicated by SCID assessment, comorbid (to POD) substance abuse was common: 7.7% (current alcohol abuse), 25.6% (history of alcohol abuse), 7.7% (current marijuana abuse), 23.1% (history of marijuana abuse), 12.8% (history of cocaine abuse), 2.6% (current sedative abuse), and 10.3% (history of sedative abuse). Participants reported taking an average of 5.56 (SD=3.42) brands/types of opioids. On average, POD individuals were 25.38 (SD=11.55) years of age at the onset of their PO use and an average of 31.77 (SD=11.38) years of age at the onset of PO dependence. Nearly half (n=18; 46.2%) reported a physician as their initial source and more than half (n=21; 53.8%) reported pain relief as their primary motive for initial PO use, whereas only 6 (15.4%) individuals reported experimentation/getting high as their primary motive for initial use. More than one-third (n=14, 35.9%) reported pain management as their main reason for current use. POs taken by this sample are detailed in Table 1.

3.3. Pain Management, Depression, and Substance Abuse Treatment

PMQ item response prevalence rates are presented in Table 2. The mean BDI score for this sample (15.62, SD=8.86) was in the 'mild depression symptom' range. Scores ranged from 3 to 37, with 45.9% (n=17) endorsing no/minimal symptoms, 19% (n=7) endorsing mild symptoms, 27% (n=10) endorsing moderate symptoms, and 8.1% (n=3) endorsing severe symptoms of depression in the two weeks prior to baseline assessment. Nearly 2 in 5 (38.5%) reported a history of addiction treatment.

4. Discussion

To our knowledge, this is the first study to explore perceptions of pain management among POD individuals with a history of treatment for chronic pain. Findings suggest that perceived under-treatment of pain is a common problem among POD individuals; nearly half (46%) did not believe they received enough medication to manage their pain. Also of concern, more than half (56.4%) used the emergency room (ER) for pain treatment at least occasionally. In addition to being costly (Machlin, 2006), ERs are not the ideal settings for the management of chronic pain as physicians in these settings often do not have the time and resources necessary to systematically screen for and monitor patients for potential misuse, abuse, dependence, and diversion (McLeod and Nelson, 2013). Numerous factors, in addition to opioid seeking/doctor shopping, could account for ER utilization rates among this sample and it is important for future research to explore a range of factors found to contribute to overall ER utilization, including lack of access to other providers (Gindi et al., 2012) and legitimate under-treatment of chronic pain (IOM, 2011).

Results reflect a high prevalence of complicated medical presentations among this sample of POD individuals. One-third of individuals with POD endorsed moderate to severe symptoms of depression in the past two weeks. Due to this study's exclusion of individuals meeting diagnostic criteria for Major Depressive Disorder, this is likely an underestimate of the

actual prevalence of depressive symptoms in this population as a whole. In addition, a significant segment of this sample reported current and historical abuse of additional substances – most frequently nicotine, alcohol and marijuana. Comorbidity of additional substances of abuse is of particular concern due to its heightened association with overdose fatalities (e.g., Calcaterra et al., 2013). Also of note, fewer than 2 in 5 of these individuals reported ever receiving treatment for substance abuse. Whereas the unmet need for substance abuse treatment is well documented in the US (SAMHSA, 2013), given this population's clinical presentation for pain management, primary care physicians may play an especially critical role in the screening, identification, and referral to treatment (Strobbe, 2014).

Nearly one-third (30.7%) of these POD individuals reported that their physician spent insufficient time talking about pain medications with them during appointments. In addition, nearly half of individuals reported that their initial use of POs was associated with pain management under the management of a physician. Previous research indicates associations between patients' perceptions of physician communication and patient satisfaction (Qureshi et al., 2013; Shirley and Sanders, 2013). Taken together, results further reinforce the importance of physicians' assessment and monitoring for comorbid symptoms of depression and comorbid abuse of other substances, and highlight the benefits of interdisciplinary treatment team approach when working with POD individuals toward the management of chronic pain.

Nearly half of participants reported openness to trying new pain medications if recommended by their physician and indicated the importance of non-pharmacological pain management strategies. Although not assessed in the current study, previous research among individuals with chronic pain indicates that as many as one-third of patients have actually accessed complementary and alternative medical treatments for pain (Haetzman et al., 2003; Ndao-Brumblay et al., 2010). Future research should explore predictors of patients' engagement and success with alternative and complimentary treatment – including but not limited to type and chronicity of pain condition(s), comorbid mental health conditions, and demographic variables.

4.1. Limitations

All participants met DSM-IV criteria for POD that included both physical and psychological dependence. Whereas exploration of pain management perceptions among this population is a novel contribution, the current findings are likely not representative of the broader population of individuals with a history of chronic pain treatment. Generalizability is further limited by the small sample size. All measures were self-report and cross-sectional. Important information regarding participants' full history of chronic pain – including specific chronic pain conditions, specific opioid treatment regimens (e.g., medication type and dosage) and adjuvant medications – was not available. This information would be necessary prior to drawing specific conclusions regarding the efficacy (versus perceived efficacy) of pain management in this population. It is impossible to determine what portion of variance in drug-seeking behavior or perception of effective pain management was driven

by respondents' dependence versus the extent of pain experienced. Finally, the current data cannot speak to the order of onset for individuals' chronic pain condition(s) and POD.

4.2. Conclusions and Future Directions

The current report is an initial effort to characterize the pain management perceptions and behaviors of individuals with comorbid POD and chronic pain. Prevalence of perceived under-treatment of pain, use of ER for pain management, and comorbid mental health and substance use disorders suggest the importance of patient- and provider- centered research to develop, validate, and implement best practices for effective chronic pain management and substance abuse treatment among individuals with current or historical POD.

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Table 1

Prescription opioid formulations participants' (N=39) indicating they were currently taking.

Prescription Opioid Brand Name (Generic Name)	Yes, n (%)
Oxycodone	23 (59.0%)
Oxycontin (Oxycodone)	19 (48.7%)
Percocet (Oxycodone/Acetaminophen)	24 (61.5%)
Percodan (Oxycodone/Aspirin)	5 (12.8%)
Roxicodone (Oxycodone Hydrochloride)	6 (15.4%)
Tylox (Oxycodone/Acetaminophen)	4 (10.3%)
Hydrocodone	23 (59.0%)
Vicodin (Hydrocodone/Acetaminophen)	18 (46.2%)
Lortab (Hydrocodone/Acetaminophen)	30 (76.9%)
Hycodan (Hydrocodone/Homatropine Methylbromide)	3 (7.7%)
Dolophine (Methadone Hydrochloride)	3 (7.7%)
Morphine	10 (25.6%)
Duramorph (Morphine)	0
Roxanol (Morphine Sulfate)	1 (2.6%)
MS Contin (Morphine Sulfate)	7 (17.9%)
Oramorph (Morphine)	0
Dilaudid (Hydromorphone Hydrochloride)	8 (20.5%)
Fentanyl	3 (7.7%)
Duragesic (Fentanyl)	1 (2.6%)
Sublimaze (Fentanyl Citrate)	0
Actiq (Fentanyl)	0
Buprenorphine	3 (7.7%)
Subutex (Buprenorphine)	1 (2.6%)
Suboxone (Buprenorphine/Naloxone)	4 (10.3%)
Buprenex (Buprenorphine Hydrochloride)	0
Codeine	8 (20.5%)
Empirin (Aspirin/Codeine)	0
Tylenol 1, 2, or 3 (Acetaminophen/Codeine)	5 (12.8%)
Demerol (Meperidine Hydrochloride)	4 (10.3%)
Darvon (Propoxyphene)	4 (10.3%)

Table 2

Responses to Pain Management Questionnaire (PMQ) items among individuals with DSM-IV-TR prescription opioid dependence and self-reported lifetime history of treatment for chronic pain (N=39).

PMQ Item (n)(%)	D	S/D	N	S/A	A
1. I believe I am receiving enough medication to relieve my pain.	11	7	5	6	5
	28.2%	17.9%	12.8%	15.4%	12.8%
2. My doctor spends enough time talking to me about my pain medication during appointments.	7	5	8	4	9
	17.9%	12.8%	20.5%	10.3%	23.1%
3. I believe I would feel better with a higher dose of my pain medication.	3	---	7	8	16
	7.7%	---	17.9%	20.5%	41.0%
4. In the past, I have had some difficulty getting the medication I need from my doctors.	10	1	7	3	12
	25.6%	2.6%	17.9%	7.7%	30.8%
5. I wouldn't mind quitting my current pain medication and trying a new one, if my doctor recommends it.	8	2	7	5	12
	20.5%	5.1%	17.9%	12.8%	30.8%
6. I have clear preferences about the type of pain medication I need.	1	---	10	7	16
	2.6%	---	25.6%	17.9%	41.0%
7. Family members seem to think that I may be too dependent on my pain medication.	6	2	9	4	14
	15.4%	5.1%	23.1%	10.3%	35.9%
8. It is important to me to try ways of managing my pain in addition to the medication (such as relaxation, biofeedback, physical therapy, TENS unit, etc.).	5	1	9	10	9
	12.8%	2.6%	23.1%	25.6%	23.1%
	Never	O/S	O/A		
9. At times, I take pain medication when I feel anxious and sad, or when I need help sleeping.	2	15	18		
	5.1%	38.4%	46.1%		
10. At times, I drink alcohol to help control my pain.	21	8	6		
	53.8%	20.5%	15.4%		
11. My pain medication makes it hard for me to think clearly sometimes.	12	19	---		
	30.8%	48.7%	---		
12. I find it necessary to go to the emergency room to get treatment for my pain.	13	18	4		
	33.3%	46.1%	10.3%		
13. My pain medication makes me nauseated and constipated sometimes.	10	16	9		

PMQ Item (n)/(%)	D	S/D	N	S/A	A
14. At times, I need to borrow pain medication from friends or family to get relief.	25.6%	41.0%		23.1%	
	7	12		16	
15. I get pain medication from more than one doctor in order to have enough medication for my pain.	17.9%	30.8%		41.0%	
	22	8		5	
16. At times I think I may be too dependent on my pain medication.	56.4%	20.5%		12.9%	
	1	14		20	
17. To help me out, family members have obtained pain medications for me from their own doctors.	2.6%	35.9%		51.2%	
	24	9		2	
18. At times I need to take pain medication more often than it is prescribed in order to relieve my pain.	61.5%	23.1%		5.1%	
	1	9		24	
19. I save any unused pain medication I have in case I need it later.	2.6%	23.1%		61.6%	
	12	4		19	
20. I find it helpful to call my doctor or clinic to talk about how my pain medication is working.	30.8%	10.3%		48.7%	
	24	7		4	
21. At times, I run out of pain medication early and have to call my doctor for refills.	61.5%	17.9%		10.3%	
	7	12		15	
22. I find it useful to take additional medications (e.g., sedatives) to help my pain medication work better.	17.9%	30.8%		38.5%	
	11	19		4	
	28.2%	48.7%		10.3%	
23. How many painful conditions do you have?	1	2	3	4	5+
	5	13	12	2	2
	12.8%	33.3%	30.8%	5.1%	5.1%
24. How many times in the past year have you asked your doctor to increase your prescribed dosage of pain medication in order to get relief?	Never	1	2	3	4+
	13	12	3	5	1
	33.3%	30.8%	7.7%	12.8%	2.6%
25. How many times in the past year have you run out of pain medication early and had to request an early refill?	6	8	8	8	4
	15.4%	20.5%	20.5%	20.5%	10.3%
26. How many times in the past year have you accidentally misplaced your prescription for pain medication and had to ask for another?	25	3	5	1	----
	64.1%	7.7%	12.8%	2.6%	----

PMQ Item (n)/(%)	D	S/D	N	S/A	A
27. How many times in the past year have you sold your prescription pain medication?	25	7	1	1	----
	64.1%	17.9%	2.6%	2.6%	----
28. How many times in the past year have you forged a prescription to secure pain medication?	30	3	1	----	----
	76.9%	7.7%	2.6%	----	----
29. How many times in the past year have you obtained pain medications from the internet or street sources?	18	3	2	8	3
	46.2%	7.7%	5.1%	20.5%	7.7%
30. How many times in the past year have you used your pain medication in a way other than instructed by your doctor?	18	4	5	4	3
	46.2%	10.3%	12.8%	10.3%	7.7%

A=Agree, S/A=Somewhat Agree, N=Neutral, S/D=Somewhat Disagree, D=Disagree, O/S=Occasionally/Sometimes, O/A=Often/Always